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ABSTRACT

This report details a research intervention plan designed to test the hypothesis that increases in student teacher use of Active Teacher Behaviors (ATB) need not rest upon intensive or even extensive training involving cooperating and student teachers. A review of literature on the best methods of effecting change in teaching behaviors so as to bring about effective instruction is presented, focusing upon the role of the cooperating teachers. The problem under investigation consisted of the following questions: given the association of a cooperating teacher strong in the use of ATB with a student teacher untrained in ATB, will the student internalize and manifest those behaviors without the intervention of an ATB observational instrument with stresses on the Active Teaching Behaviors? Similarly, will the use of an observation instrument yield a higher level of the use of ATB in the student teacher associated with the cooperating teacher who is high in ATB? Conversely, given the association of a cooperating teacher low in the use of ATB behaviors with a student teacher untrained in ATB, will the use of the ATB observational instrument cause the student teacher to display higher levels of ATB than a student teacher in a similar pairing, but not using the ATB observational instrument? The research procedures are described and a discussion of the results is presented. Follow-up interviews with student teachers and cooperating teachers provide a basis for considering the effectiveness of the observational instrument as a means of improving active teaching behaviors. (JD)

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RESEARCH INTERVENTION CASE STUDY

Reno, Nevada; Spring 1984

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Educational Research and Development
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Background and Introduction

The Research Intervention activity of the ARTE/RUETE Project in Reno, Nevada was one of three simultaneous activities funded by the Far West Laboratory for Educational Research and Development under a grant from the National Institute for Education.

The total project: Applying Research in Teacher Education (ARTE)/ Research Utilization in Elementary Teacher Education (RUETE) had three original goals. These goals were to develop a situational analysis at each of three sites, to develop a teacher education academy at each site and to conduct research on one aspect of effective instruction.

The total effort was conceived as a collaborative activity involving three professors of education from three different geographical locations. Participating in the project was Dr. Amy Driscoll, University of Utah, Salt Lake City; Dr. Richard C. Ponzio, Mills College, Oakland, California; and, Dr. Kenneth W. Johns, University of Nevada, Reno.

The goals of the project are clearly described in the joint title and are paraphrased here for emphasis: To apply and utilize research in teacher education, both pre-service and in-service.

As Gee remarks in her paper (Gee, 1984), "...useful research findings on effective instruction are underutilized in teacher training institutions as well as inservice instruction." Howsam addresses this issue from the standpoint that education as a profession is perceived to lack some of the characteristics of a fully-developed profession such as a body of fully developed and validated knowledge. More to the point, Howsam states (Howsam, 1983):

> "A far greater problem for the teaching profession than the insufficient validation of professional knowledge is the absence of any strong tendency to want or use it, even when it is readily available ..." and "...there is a strongly entrenched tendency to teach as one has been taught (modeling) and as one has learned on the job (personal experience). It is believed that little is learned from teacher education, other teachers, or the supervisory efforts of principals and supervisors. Given this attitude, the establishment of a professional basis from examination and research will be delayed, frustrated and denied...."

These and other writings served as the background against which the three-year ARTE/RUETE project was launched.

An additional piece of the background mosaic provided by these introductory paragraphs is the concept of collaborative effort. This concept was introduced to the three project participants in February, 1982 at the initial project meeting at the Far West Laboratory in San Francisco. The concept of collaboration served as the binding glue in the construction of each of the three research intervention activities at the three sites. This concept was also to be a common theme in each of the Teacher Education Academies.

It was on the basis of collaboration that the three research intervention designs were developed to complement and contrast with each other.

The Utah research intervention plan involved student teachers, cooperating teachers and teacher education faculty. The research intervention plan investigated the impact of student teacher participation in the collaborative development of pre-service training that implements effective instruction research.

The California research intervention plan investigated the impact of training student teachers and their cooperating teachers to conduct observations and to engage in feedback about effective instruction. The

student teachers and cooperating teachers were introduced to and trained to use two observational instruments: the Active Teaching Behavior Observation Instrument and an adaptation of the Academic Learning Time Instrument. This research explored the impact on instructional behaviors and supervision strategies.

The Nevada plan was the result of the collaborative planning and discussions which took place in San Francisco. This plan evolved as a parallel to the Utah research intervention plan, but was designed to test the hypothesis that increases in student teacher use of active teaching behaviors need not rest upon intensive or even extensive training involving cooperating teachers and student teachers.

Situational Analysis

It is the purpose of this report to detail the research intervention design of the Nevada site. However, this research does not stand in isolation from the social and educational milieu of the community in which it was conducted. It is therefore necessary to highlight some information relevant to the research intervention design and to offer comment on why it is relevant to the design. For detailed information on the Situational Analysis, the reader is referred to the Far West Laboratory document: Situational Analysis: University of Nevada, Reno and Washoe County School District Teacher Education Programs, Johns and Gee, 1983.

In an effort to limit the range of topics under the rubric of effective instruction, the regional research fellows agreed to confine their definition to: General student participation styles, activity structures including grouping, academic learning time, active teaching behaviors and classroom management.

These topics served as the basis for an inquiry into the knowledge levels of three role groups in Reno, Nevada. These role groups are the teacher educators, student teachers and the cooperating teachers with whom students are placed for their final experiences prior to graduation.

The 28 cooperating teachers who were to receive student teachers in the fall of 1983 were interviewed during the spring of 1983. The interviews were conducted to determine their levels of knowledge of effective instruction. These interviews revealed they had a general lack of knowledge of most of the topics included in the definition of effective instruction with the exception of classroom management (Figure 1). Even this topic had a relatively low level of positive response. This is possibly due to the use of terms coined by Kounin, such as "withitness," "overlapping," etc.

Interviews with the 28 student teachers who were to student teach in the urban Reno area during the fall semester showed a shift of emphasis in their responses from the "lack of knowledge" response displayed by the cooperating teacher to at least an "awareness" level. That is, they knew they had encountered the topic in their coursework. When student teachers were asked if they had a "thorough understanding," they became much more conservative in their responses. The only topic having ratings as strong as the category of "have encountered" is in the topic of "Active Teaching Behaviors." In this topic more students indicated they had a "thorough knowledge." It is conjectured this strong showing may have been due to a familiarity with the phrases used in describing Active Teaching Behaviors, i.e., lesson planning, explanations and demonstrations, etc.

When the five faculty members of the College of Education most directly involved with the undergraduate teacher preparation program were interviewed, their strongest area of unfamiliarity was with the concept of

FIGURE 1

STUDENT TEACHER, COOPERATING TEACHER, FACULTY KNOWLEDGE OF

EFFECTIVE INSTRUCTION TOPICS

Faculty:	(1) Not Heard Of			(2) Have Encountered			(3) Read About-Interested			(4) Extensive Rdg.			(5) Do Not Cover		
Stu. Tch:	Not Encountered			Introduced To			Thorough Understanding			Apply in Class,S.T.			Used As Grade		
Co-op Tch:	Not Familiar			Know About Don't Use			Knows and Uses			Discuss with S.T.			S.T. Must Demo		
	CO*	ST**	F***	CO	ST	F	CO	ST	F	CO	ST	F	CO	ST	F
Student Participation Style	66%	28%	20%	0%	57%	20%	20%	5%	20%	13%	5%	40%	0%	5%	20%
Activity Structure	60%	10%	0%	6%	52%	40%	20%	14%	20%	13%	14%	40%	0%	10%	20%
Academic Learning Time	60%	47%	0%	6%	38%	60%	13%	0%	40%	6%	10%	0%	0%	5%	40%
Active Teaching Behaviors	60%	14%	0%	0%	28.5%	20%	13%	28.5%	20%	27%	19%	60%	0%	10%	0%
Classroom Management	60%	33%	0%	0%	52%	0%	13%	10%	80%	13%	0%	20%	13%	5%	20%

NOTE: * CO = Cooperating Teacher (N = 28)

** ST = Student Teacher (N = 28)

*** F = Faculty (N = 5)

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Academic Learning Time. The most familiar area of knowledge to the faculty was on the topic of Active Teaching Behaviors. Again, this may have been familiarity with the descriptive terminology, rather than the behavioral applications in the classroom.

The preceding paragraphs are relevant to the research intervention design in that they seemed to establish that the topic of active teaching behaviors are not highly visible in any structured format in any of the role groups interviewed. That is, neither the college faculty nor the cooperating teachers used any formal instrumentation in teaching about, or assessing, student teacher use of active teaching behaviors.

A second item relevant to the research intervention design is the recognition that student teachers are not always placed within a cadre of teachers experienced in the supervision of student teachers. Rather, many new cooperating teachers are used each semester in an effort to provide as many different teachers as possible with the experience of having a student teacher.

This practice is somewhat different from the California and Utah sites and is significant in that the Nevada site utilizes the teachers as cooperating teachers based on the principal's recommendation and not based on observation of their ability to serve as role models in the area of active teaching behaviors.

The preceding paragraph is especially relevant in view of the strong impact upon student teacher behaviors attributable to the cooperating teacher.

Research Intervention

It is against the foregoing setting and the contrasting research intervention designs of Utah and California that the Nevada research inter-

vention is presented.

As the designs for the Utah and California research interventions emerged, and as the discussions of relevant literature, personal philosophies and even biases crystallized, it became clear that a research design counter to those of the other regional research fellows was not only desirable for originality of effort, but also to serve as a possible validation for the findings of the other regional research fellows, especially that presented by the Utah fellow.

Review of Literature

The Nevada design is not entirely without foundation in the literature. In fact, the design of the study and the choice of procedures rest heavily on the literature. The question is: What is the best, or possibly the most efficient, method of effecting change in teaching behaviors so as to bring about Effective Instruction? Is the best method of effecting change or operationalizing behaviors the intensive, interactive training of pre-service students in tandem with their cooperating teachers prior to the commencement of student teaching? Or, is it possible to effect change while the student teacher and cooperating teacher are working together in the ongoing day-to-day classroom environment?

As most supervisors of student teachers know, the cooperating teacher is a major factor in the teaching style and behavior of student teachers. Seperson and Joyce (1973) found in their study of teaching styles that the influence of the cooperating teacher was felt early in the student teaching experience, rather than being slow and cumulative. In discussing their research, they conjecture that the environmental setting into which the student teacher comes may be a strong determiner of the student teacher's behavior. As an example, they cite the classroom environment in which

children are organized into small groups versus the rows and aisles classroom structure. In the one case the student teacher must immediately be a facilitator, while in the other the student teacher must be a lecturer displaying didactic styles.

Willis D. Copeland (1978) examined the effect of the cooperating teacher on the student teacher from two perspectives. The first was from a social learning theory and the second was from an ecological system defined as, "that network of inter-connected processes and events which impinges upon behavior in the teaching environment." In the first approach, the teacher models the behavior and the student teacher copies it. In the second, the cooperating teacher's natural use of a skill so shapes the classroom environment that the student teacher's use of the same skill, if learned elsewhere, is supported and facilitated.

Copeland found that the classroom ecological system had a significant effect on the student teacher's utilization of the target skill. Copeland found that the modeling of a particular behavior by the cooperating teacher had little effect on the student teacher.

These two citations from the literature raise the question of what will be the behavior of a student teacher placed with a cooperating teacher who displays the Active Teaching Behaviors? Similarly, what will be the behavior of the student teacher placed with a cooperating teacher who does not display the Active Teaching Behaviors? Must a student teacher and cooperating teacher receive formal, simultaneous training to effect the Active Teaching Behaviors?

Two additional pieces of literature that impinge upon this study are citations in an article by Thomas Good (1979). In his article, Good refers to a study by Crawford and Stallings in which a group of teachers were trained two different ways. The groups were designated "minimal" and

"maximal." The "minimal" training group received printed materials and a self-administered test on the training program. The "maximal" training group received the same packets and test, but also participated in meetings with the research staff and other teachers to discuss, practice, role play and watch video tapes illustrating criterion behaviors. It was found that the "minimal" teachers implemented the program better than "maximal" teachers.

Lest the preceding be too simplistic, and too loaded with the implication that all one needs is a training manual to produce results in excess of those attained by teachers who have participated in comprehensive training, Crawford and Stallings also found that the "minimal" group had greater verbal abilities and a self-reported structuredness of teaching style than did the "maximal" group, as a whole.

A study conducted by Anderson, Evertson and Brophy (1978) sought to determine if monitoring of teachers was necessary for increasing student gains. At the end of the experiment, it was found that the two treatment groups (observed and unobserved) had significantly higher adjusted achievement gains than the control group. In other words, the treatment had an effect that was not moderated by the presence of observers.

The preceding references, the Situational Analysis and the procedures being implemented at the two other project sites (Oakland, California and Salt Lake City, Utah) helped establish the problem for investigation. The references indicate the strong effect the cooperating teacher has upon the student teacher's behavior. Other research cited seems to indicate teacher behavior may not be necessary to effect instructional change.

The Situational Analysis served to establish the levels of knowledge of the various components of effective instruction displayed by the faculty, the student teachers and the cooperating teachers. While Active Teaching Behaviors terminology triggered greater response levels of familiarity, there

was some question as to whether the actual behaviors are as well known.

Statement of the Problem

Given the association of a cooperating teacher strong in the use of Active Teaching Behaviors (ATB) with a student teacher untrained in ATB: Will the student internalize and manifest those behaviors without the intervention of an ATB observational instrument with stresses the Active Teaching Behaviors?

Similarly, will the use of an observation instrument yield a higher level of the use of ATB in the student teacher who is associated with the cooperating teacher who is high in ATB?

Conversely, given the association of a cooperating teacher low in the use of Active Teaching Behaviors with a student teacher untrained in ATB, will the use of the ATB observational instrument cause the student teacher to display higher levels of ATB than a student teacher in a similar pairing, but not using the ATB observational instrument?

Procedure

In early September, 1983, a letter was sent to each cooperating teacher in the elementary education program (Appendix A) asking his or her permission to observe the teaching of mathematics. Teachers granting permission to observe constituted the initial pool for this study (28).

The topic of mathematics was chosen for observation because of the relatively clear-cut teaching behaviors, the generally limited number of concepts introduced at one time, and because previous investigation of ATB were most frequently conducted on mathematics instruction.

Beginning the week of September 12, 1983, each cooperating teacher was observed teaching mathematics on two different days. Immediately following those observation, each student teacher was observed early in

September and again in November teaching mathematics one time. At the conclusion of each observation using the ATB Observation Sheet (Appendices B and C), A summary statement describing the general prodedures employed in the classroom were recorded and transcribed. These procedures provided an empirical and naturalistic record of the classroom.

The teachers for whom a complete set of observations were obtained were rank ordered and divided into the categories of high ATB and low ATB. They and their student teachers were then assigned to one of four treatment cells (figure 2).

FIGURE 2

	Student Teacher	Student Teacher
Cooperating Teacher High ATB	Observation Instrument	Non-Instrument
Cooperating Teacher Low ATB	Observation Instrument	Non-Instrument
	Student Teacher	Student Teacher

Beginning mid-November, 1983, each cooperating teacher designated to receive the observation instrument, whether high ATB or low ATB, was visited and asked to utilize the instrument in observing the student teacher teach mathematics. Furthermore, the cooperating teacher was asked to share the observation sheet with the student teacher and to provide the student teacher with a set of the difinitions and examples of the behaviors to be observed (Appendices B and C).

Beginning the last week in November, the student teachers who had not received the observation instrument were observed one time for control data.

Beginning the first week in December, those student teachers who had received the observation instrument were observed one time for post-intervention data.

All observations on student teachers and cooperating teachers were conducted by the same individual. This observer had been trained in the use of the observation instrument with video tapes and in actual classroom situations. Observer reliability was .89.

The trained observer was not informed which of the student teaching sites were designated as high ATB or low ATB. However, there is little doubt the observer knew or suspected which of the sites had been provided the observation instrument and which sites had not.

As a result of incomplete observations and loss of student teachers, the final sample size was 21 student teachers.

Data was analyzed according to the level of Active Teaching Behaviors and the use or non-use of the observation instrument. Each data cell was submitted to chi square analysis with three degrees of freedom.

Results and Discussion

The results of this study are displayed in Figure 3. All four cells reached levels of significance between pre- and post-observations of the dependent variable (Frequency of Behaviors) as mediated by the introduction of, or withholding of, the observation instrument.

The numerals across the top of the cells identify the categories of behavior on the ATB Observation Sheet (Appendix C). These categories are 1) Introduction, 2) Instruction, 3) Closure and 4) Maintenance.

FIGURE 3

THE EFFECT OF AN OBSERVATION INSTRUMENT ON STUDENT TEACHER PERFORMANCE OF ACTIVE TEACHING BEHAVIORS

(I) HIGH ATB/INSTRUMENT

		1	2	3	4
PRE	FREQ.	8	434	0	82
	%	36.4	53.4	0	7.9
POST	FREQ.	14	378	6	117
	%	63.6	46.6	100.0	58.8

SIGNIFICANCE -- .0005

(II) HIGH ATB/NON-INSTRUMENT

		1	2	3	4
PRE	FREQ.	7	464	1	97
	%	53.8	54.8	100.0	39.1
POST	FREQ.	6	383	0	151
	%	46.2	45.2	0	60.9

SIGNIFICANCE -- .0002

(III) LOW ATB/INSTRUMENT

		1	2	3	4
PRE	FREQ.	4	330	1	35
	%	20.0	49.4	100.0	31.3
POST	FREQ.	16	338	0	77
	%	80.0	50.4	0	68.8

SIGNIFICANCE -- .0002

(IV) LOW ATB/NON-INSTRUMENT

		1	2	3	4
PRE	FREQ.	19	408	5	36
	%	79.2	53.3	100.0	52.9
POST	FREQ.	5	357	0	32
	%	20.8	46.7	0	47.1

SIGNIFICANCE -- .0146

Because of the relatively low pre- or post-frequency in Category Three, the level of significance for each of the cells is somewhat questionable and probably unduly influenced by Category Three.

Cell Number I, High ATB/Instrument, reveals a marked increase in the frequency of behaviors in Categories One, Three and Four. Category Two shows a decrease in behaviors. Analysis of the frequency of the individual behaviors which comprise Category Two reveals a 54% decrease in the specific behavior identified as: Illustrated, Modeled, Demonstrated. There is no explanation for this decrease.

Cell Number II, High ATB/Non-Instrument, displays relative stability across Categories One, Two and Three. Category Four displays a marked increase in Maintenance behaviors. Analysis of the frequency of the individual behaviors in Category Four reveals a large increase in the behaviors identified as: Signalled and Disciplined. The same increase in these two behaviors is present in Cell Number I.

Cell Number III, Low ATB/Instrument, displays relative stability of the frequency of behaviors in Categories Two and Three. Categories One and Four display marked increases in the frequency of behaviors. Again, as in Cells I and II, the increase in the frequency of behaviors in Category Four is most evident in the behavior identified as: Signalled and Disciplined.

Cell Number IV, Low ATB/Non-Instrument, displays a decrease in Categories One, Two, Three and Four. The decrease in the frequency of behaviors in Category Four is less than in the other three categories. Inspection of the behaviors within Category Four reveals that there was a higher level of the behavior identified as: Scanned Room, in the initial observation of student teaching behaviors and considerably less in the concluding observations.

Discussion

The increase in the frequency of behaviors in Category Four in all cells, except in Cell Number IV, may be attributable to the point in time in the student teaching experience during which the observations were made. These final observations were made in the weeks approaching the Christmas holiday. The student teacher, for the most part, had sole control of the classroom.

Generally speaking, the use of the observation instrument tended to increase the frequency of behaviors in Category One. This category encompasses the introductory behaviors that provide focus and relate the lesson to previous lessons.

Perhaps the most revealing cell in the total array is Cell Number IV. This cell tends to reveal the effect of a low ATB teacher on the behaviors of the student teacher. From the display of frequencies in Cell IV, it appears the student teacher may come to the classroom displaying a relatively high level of Active Teaching Behaviors only to have them minimized over time by the cooperating teacher.

The findings related to Cell Number IV are particularly significant in relation to the Situational Analysis wherein it was pointed out that the University of Nevada, Reno does not utilize a cadre of cooperating teachers experienced in the supervision of student teachers.

This study seems to indicate that the use of an observation instrument in tandum with a cooperating teacher who displays high use of Active Teaching Behaviors may increase the use of desirable teaching behaviors. Conversely, failure to use the instrument coupled with a teacher who displays minimal levels of Active Teaching Behaviors may impede student teacher growth and may, in fact, cause a reversal of desirable entry-level behaviors.

Finally, this study tends to indicate the use of the observation instrument is capable of maintaining or enhancing Active Teaching Behaviors without the need for extensive workshops or protocol materials. However, it does not reveal if the the behaviors are lasting or are merely displayed at a point in time.

Follow Up

It was felt desirable to interview student teachers and cooperating teachers about their perceptions of the use of the observation instrument.

This desire to interview the participants stems from the laissez faire approach to the introduction of the instrument and the lack of monitoring of the use of the instrument during the time between introduction of the instrument and assessment of Active Teaching Behaviors near the conclusion of the study.

The lack of monitoring was not a deficiency in the design, rather it was intended to be a totally "hands off" approach to the impact of the instrument.

In the spring of 1984 a follow-up visit was made to each cooperating teacher and student teacher where the instrument was used. A pre-established set of interview questions was used with the student teachers and cooperating teachers. These questions appear in Appendix D followed by the actual interviews from the tape recorded sessions (Appendix E).

Student Teachers

From the perspective of the student teacher, the use and impact of the instrument is highly variable (Table 1).

It appears that most of the student teachers were not given the instrument to study prior to working with it (Question 1). On the other

TABLE I

STUDENT TEACHER INTERVIEWS

QUESTION	RESPONSES		
	Yes	No	Unasked or Unsure
1. Were you given the actual instrument to study?	4	6	-
2. Did you and your cooperating teacher discuss it before trying to implement it?	6	3	1
3. Were you given the couple of pages of definitions of the behaviors?	5	2	3
4. Did your cooperating teacher use the instrument in observing you and provide you with feedback?	5	3	2
5. What was your opinion as a student teacher of the instrument?	Variable See Results	Variable See Results	Variable See Results
6. As you reflect upon your undergraduate preparation, were these items covered in your methods courses, either directly or indirectly?	6	2	2
7. If yes, the content of the observation instrument was not new to you, but the idea that you would be observed and given feedback from the instrument was new?	5	2	3
8. Did the use of the instrument as an observation tool have any effect on your teaching?	3	5	2

hand, the cooperating teacher and student teacher discussed it prior to using it (Question 2). It appears that most of the students definitely recall being given the definitions of the behaviors contained in the instrument (Question 3).

The cooperating teachers used the instrument to observe the student teachers and did use it to provide feedback to the student teachers (Question 4). This question would have been more exact if the words "and provide you with feedback" had been made into a separate question.

The bulk of the respondents felt the items on the observation instrument had been covered in their methods classes (Question 6). If true, this could explain the relatively high entry-level behaviors of all student teachers.

The fact that the instrument was to be used to provide feedback was perceived to be new to the student teachers (Question 7). This is probably a reflection of the general way that cooperating teachers provide feedback. That is, they will typically discuss short aspects of a lesson rather than employ a beginning-to-end summary of the lesson.

The majority of the respondents felt the instrument had relatively little effect on their teaching (Question 8). Yet, actual observation of certain behaviors showed major increases where the instrument was used and little or no increases where it was not used.

Finally, Question Number 5 asked the student teacher for an opinion of the instrument. Eight of the ten interviewees gave positive responses concerning the value of the instrument. One interview was not completed, and one did not see the instrument in detail.

The affirmative responses of the student teachers are not unlike those obtained in workshop sessions with student teachers at the Utah site and the Oakland site. This latter observation was related in discussions with the two research fellows from those sites.

Table I displays the summarized results of the interviews with student teachers.

Cooperating Teachers

Eight of the cooperating teachers expressed an affirmative response to the question that asks if they used the instrument to observe the student teacher (Question 1) (Table II). To this same type of question (Question 4), only five of the student teachers responded in the affirmative.

Five of the cooperating teachers were able to express a frequency for the number of times they observed the student teacher. The balance of teachers were unsure how many times (Question 1a).

Again, there is a discrepancy between the perceptions of cooperating teachers and student teachers on whether the student teacher was given the actual instrument to study (Question 2 versus Question 1, respectively). The cooperating teachers responded in the affirmative eight times, while the student teachers did so only five times.

The same eight cooperating teachers stated they provided the student teacher with feedback based on the instrument (Question 4).

Table II displays the summarized results of the interviews with cooperating teachers.

Discussion

From these results, it appears the student teacher and cooperating teacher had somewhat different perceptions of how the instrument was used. It further appears that the cooperating teacher perceived himself/herself to have utilized the instrument to a greater extent than did the student teacher. It is quite possible that in some instances the cooperating

TABLE II

COOPERATING TEACHER INTERVIEWS

QUESTION	RESPONSES		
	Yes	No	Unasked or Unsure
1. Did you use the instrument to observe your student teacher?	8	1	1
a. If yes, approximately how many times? 1(3-4) 2(5) 3(6-7) 4(12) 5(3-4)	5		5
b. If not, why not?*			
2. Did you give the student teacher the actual instrument to study?	8	1	1
3. Did you give him/her the definitions?	5	4	1
4. Did you provide your student teacher with feedback based on the instrument?	8	1	1

*The one teacher who did not use the instrument gave her reason as: "Not enough time."

teacher did actually utilize the instrument's behavior categories as a discussion point, but that the student teacher was not aware the instrument was the source of the discussion.

There is little doubt there was an increase in the frequency of certain student teacher behaviors as measured by the instrument. Whether or not these increases can be attributed to the cooperating teacher's strengths, the instrument or the student's perceptions that they had encountered these topics in the methods courses is not completely clear.

If the study were to be replicated, it would be advantageous to monitor the use of the instrument by the student teacher and the cooperating teacher as an ongoing activity prior to the final observation of the student teacher's use of Active Teaching Behaviors.

Epilogue

The collaborative nature of the efforts of the three regional research fellows (Dr. Amy Driscoll, Dr. Richard C. Ponzio and Dr. Kenneth W. Johns) has been a highly rewarding growth experience for this research fellow. It is said practitioners in the public schools experience isolation in their classrooms. So too do the teacher educators! While there are conferences to attend and journals to read, there is rarely the unifying theme, the common lexicon and the sense of goal directedness which has been provided by the ARTE/RUETE Project.

The research conducted under the aegis of the Far West Laboratory is only a beginning to the collaborative activities targeted for the total scope of the project. The Teacher Education Academy is designed to be a collaborative effort of school and college.

With the establishment of such collaboration, the classroom research on effective instruction can be pursued by the practicing teacher and the teacher educator. This collaborative effort will enrich both entities and hopefully major benefits will accrue to the client we all serve.....the child.

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APPENDIX A

Dear Cooperating Teacher:

Some while ago I interviewed you about a series of topics in education. At that time I informed you that I was working on a research project with the Far West Laboratory for Educational Research and Development.

I am now in the second phase of that project, and need to ask your permission to observe you teaching mathematics on three different days. In no way will your name be used, nor will the identity of the classes be revealed.

If you grant your permission, I will share the observation instrument with you after the three observations. It will then be necessary to observe your student teacher teaching mathematics on three occasions. This last observation will take place in October.

I have enclosed a return envelope and a permission slip. This activity has been cleared with the Research Director of the Washoe County School District.

Finally, I want to assure you that in no way will this project be used to your personal disadvantage.

Sincerely,

Kenneth W. Johns, Ed.D.
Project Director

KWJ
Enclosures:
Permission Slip
Return Envelope

APPENDIX B

ARTE: RUETE
Active Teaching Behaviors (ATB)

The observation system described here is designed to reflect behaviorial evidence of active teaching behaviors during direct instruction in the classroom. It provides a common language for discussion and serves as an indicator of the presence of some characteristics of effective instruction.

The active teaching constructs structure the collection of as much instructional information as possible. The observer focuses on the teacher and what s/he is doing. Observers will record information about instruction for the duration of one complete lesson period including sequence, frequency, and field note descriptions. This calls for continuous monitoring of the teacher during instruction in a basic skills lesson. The observation form presents a minute by minute account of how instruction is conducted. Behaviors should be recorded specifically and in as much detail as possible.

The following sections identify the categories and variables of instructional behaviors you will be observing and describing, discuss the observation sheet on which you will record information, and presents the procedures for accurate and complete reporting.

ATB Observation Categories and Variables

The categories and variables reflect recent research on effective instruction and focus upon the elements of instruction. Therefore, observers focus on teacher behavior related to delivering instruction. Potentially there are many things about instruction in which one could be interested, however, for purposes of reflecting the active teaching constructs observers focus only on the teacher's behavior and how students respond to this. Essentially, we are interested in four categories:

1. How the teacher introduces instruction.
2. How the teacher carries out instruction.
3. How the teacher maintains student engagement.
4. How the teacher concludes instruction.

These four categories are thought of as the core of instruction and represent events which occur in the stream of instruction as a teacher presents lessons to students. Generally, the four elements occur in a cycle: a teacher introduces the lesson, presents new information, establishes and maintains students in the activity, and summarizes the instruction presented. During instruction a teacher cycles back through these four categories and switches among them.

The task of the observer is to describe precisely and objectively how the teacher does these things. Naturally, each teacher does any of these things in different ways. In fact, teachers use many different strategies to accomplish any one of these things. It is not possible to list the many ways in which each of these four categories of instruction might be expected to look during observations. However, based on previous research we can speculate about the various ways in which each of these four categories might be manifested. These are provided in the discussion which follows.

Introduction

1. Stated goals/objectives: Teacher opens with a statement of the purpose of the lesson; what the student is to learn. The intent is to focus the lesson, alert the student to intended objectives, and to what s/he is to produce. Example: "Today we will study prefixes, which will help you to read hard words better and faster."

2. Outlined lesson: Teacher informs student of how the lesson will proceed, activities to follow, tasks to be completed, and sets time limits. Example: "First I will tell you about wolves, then you will write a story about them. We will finish by 11 o'clock."

3. Explained concepts/definitions: Teacher introduces the definitions in advance, or in context; may provide handouts, use visuals, etc.; teacher states the concept in a clear statement in order to highlight for student awareness. Example: "Deciduous trees, like maple and apple trees, lose their leaves in the winter."

4. Reviewed goals/previous instruction: Teacher connects today's lesson with previous lesson by tying the two together with a statement such as, "Yesterday we went on a field trip to a farm and today we will study animals that live on a farm."

Instruction

5. Gave directions: Teacher provides directions for activities. Example: "First you will underline each vowel in the word, and then you will write a sentence using the whole word."

6. Didactic/lecture: Teacher makes direct, straightforward presentation of material through lecture, film, etc. Basically this is a one-way communication.

7. Illustrated, modeled, demonstrated: Teacher gives a verbal illustration of an instance that exemplifies the concept of focus, provides a graphic arts illustration, uses the chalkboard to illustrate a point, visually demonstrates using media, or provides behavioral enactment of the desired action.

8. Questioned: Open/concepts/understanding: Teacher asks questions which are open-ended, relate to concepts being presented, and/or checks for student understanding of content. Example: "What would happen if we didn't capitalize some words?"

9. Questioned: Closed/facts: Teacher asks closed questions of a factual nature; recall questions; moves lesson along with a quick check. Example: "Now who can name the three causes of the Civil War?"

10. Answered: Content/questions: Teacher responds to student questions related to the content being taught. Example: "Yes, dinosaur fossils could be found under the ocean."

11. Answered: Procedural questions: Teacher responds to student questions about procedures, how to perform assigned tasks, etc. Example: "No, first you should write the word and then cover your paper and spell it."

12. Provided feedback: Teacher communicates to students if answer/work/procedures are correct or incorrect. Example: "That's right. You remembered to indent all your margins."

Closure

13. Summarized lesson/work: Teacher restates/provides overview of material presented together with procedures and tasks accomplished. Example: "Today we learned three things about tadpoles and wrote a poem about them."

14. Collected work: Teacher requests students to turn in their work. Example: "Please pass your paper to the person on your left."

Maintenance

15. Restated class rules: Teacher reminds students of appropriate behaviors/procedures by restating class rules. Example: "Remember, we always use 'walking feet' in our classroom."

16. Told to attend: Teacher reminds students to listen, to participate, to be "on task", or to attend to current instructional activity. Example: "Mike, your eyes need to be on your own paper."

17. Roamed room: Teacher walks among students. Purpose may be to check work, management, etc.

18. Signalled (non-verbal): Teacher gestures, stares, or otherwise indicates modification in student behavior. Example: Teacher puts finger to her lips for quiet.

19. Scanned room: Teacher looks around the classroom to monitor engagement and/or "on task" behavior.

20. Disciplined: Teacher intervenes regarding disruptive behavior on the part of a student. Example: Sending the student from room.

ATB Observation Procedures

The observation task is two fold: (1) categorizing the frequency of observed variables, and (2) describing instructional behaviors of the teacher. Both are completed on a minute by minute basis. These two tasks are described in this section.

Recording the frequency of instructional behaviors involves selecting one of 20 variables which best characterizes the teacher's behavior that occurred during the minute being coded. These 20 variables are designed to be sufficiently flexible so that instructional behaviors can be assigned to one of the variables.

Once the variable has been selected and checked, the observer must write a description of the specific action or language which exemplifies the variable.

Steps for completing the observation recording sheet are:

1. Circle the appropriate site number as designated by your trainer.

2. Enter the name of the teacher for "CLASS."

3. Enter the sheet number for the lesson you are observing. Each complete lesson will begin a different series of sequential numbers.

4. Enter the date [month/day/year] of the observation day. For October 14, 1983 enter "10/14/83."

5. The actual recording of variables is in two parts:

   a. Beginning with the first minute of the lesson, and continuing minute-by-minute through the entire lesson, place a checkmark in one appropriate variable column

for the teacher behavior observed. For example, if during the fifth minute of the lesson you see the teacher leave her desk and walk among the students' desks, then you would place a checkmark in row 5, column 17: Roamed room.

Enter only one checkmark for each minute of observation. If you observe more than one variable in any given minute, place a check in the one variable column you feel reflects the behavior emphasized by the teacher.

b. Immediately after you have placed a checkmark in one variable column which corresponds to the appropriate minute row, write a phrase describing the behavior of the teacher during that minute in the "Description" column. These descriptions will be brief. For the example above, if you observed the teacher roaming the room and s/he stopped at the desk of a child who was talking loudly to another student several seats away about the pencils and erasers in his pocket, you might write "Roaming, stopped at desk,child calling out, put hand on child's shoulder, child attended to worksheet."

If information is made available later in the lesson which sheds light on the context and purpose of the lesson, codes can be changed.

6. After the entire lesson is finished, you must record two more observations. These last two recordings are based on your sense of the lesson as a whole.

a. At the top of your first sheet (sheet # 1) in the information box, which appears on the left half of the sheet, and below the dotted line, place one checkmark. Below "MOMENTUM" a check is placed beside "YES" if you felt the teacher was able to sustain students' interest, moved the lesson forward at an appropriate pace, and accomplished stated lesson objectives. Place a checkmark by "NO" if you do not think momentum was sustained.

b. One checkmark is placed by "YES" for "DIFFERENTIATED INSTRUCTION" if you feel the teacher paced, restructured, or re-taught the lesson to meet student needs. Place a checkmark by "NO" if you feel the teacher did not show this flexibility.

7. Sum the checkmarks in each column for each sheet. Enter the sum for each column, 1 through 20, in the row "TOTAL". If no checkmark appears, enter a zero (0) in the column. The total of sums, column 1 through 20, for each sheet should be no more than 7.

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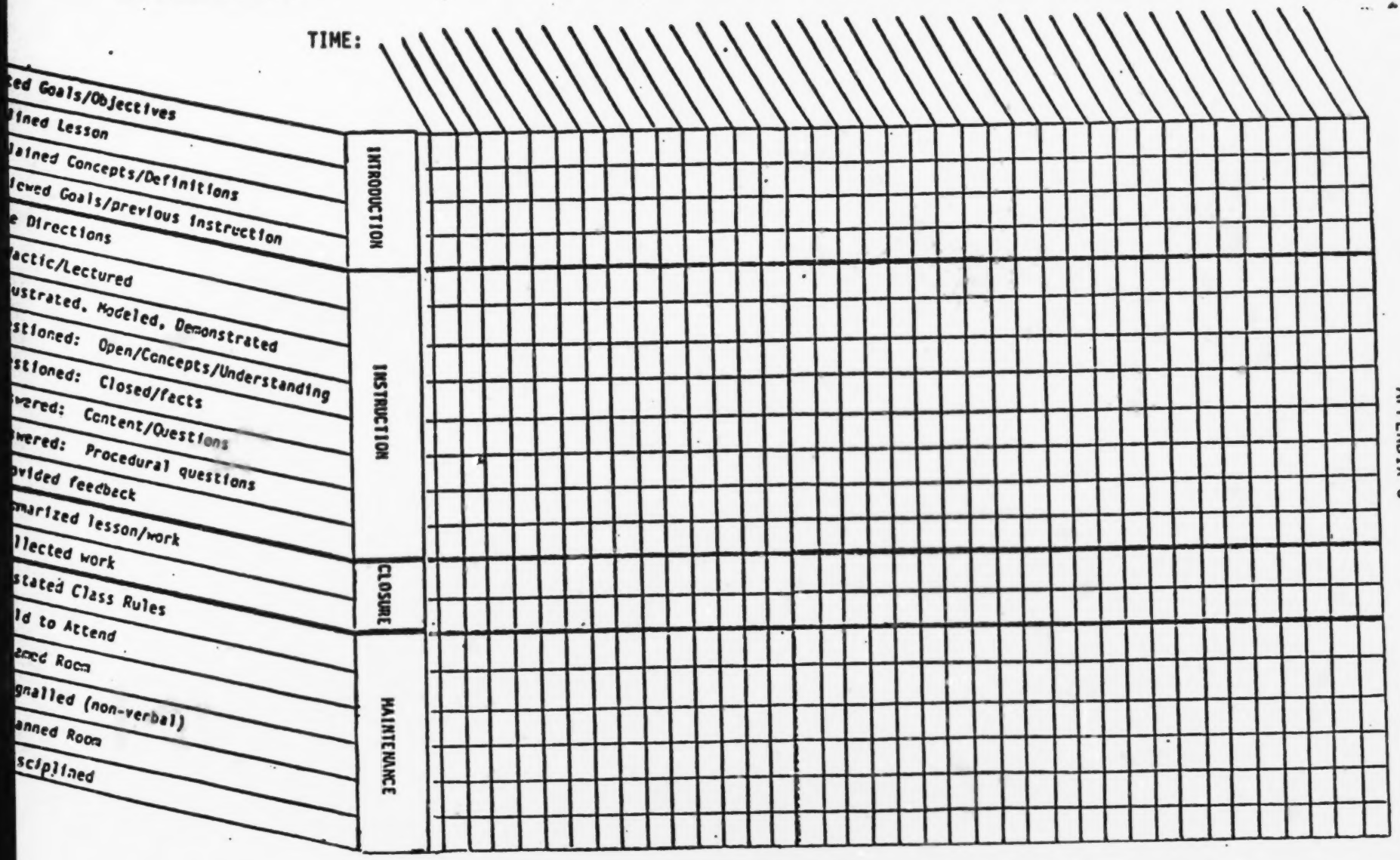
ARIE: RUETE
ACTIVE TEACHING BEHAVIOR
OBSERVATION RECORD

TIME:



APPENDIX C

ntum:

_____ No _____

Differentiated Instruction:

Yes_____ No_____

Class:_____

Site: _____

Date:

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APPENDIX D

QUESTIONS FOR COOPERATING TEACHER INTERVIEW

1. Did you use the instrument to observe your student teacher?

   If yes, approximately how many times?

   If no, why not?

2. Did you give the student teacher the actual instrument to study?

3. Did you give him/her the definitions?

4. Did you provide your student teacher with feedback based on the instrument?

QUESTIONS FOR STUDENT TEACHER INTERVIEW

1. Were you given the actual instrument to study?

2. Did you and your cooperating teacher discuss it before trying to implement it?

3. Were you given the couple of pages of definitions of the behaviors?

4. Did your cooperating teacher use the instrument in observing you and provided you with feedback?

5. What was your opinion, as a student teacher, of the instrument?

6. As you reflect upon your undergraduate preparation, were those items covered in your methods courses; either directly or indirectly?

7. If yes, the content of the observation instrument was not new to you, but the idea that you would be observed and given feedback from the instrument was new?

8. Did the use of the instrument as an observation tool have any effect on your teaching?